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ETHMOID AND SPHENOID INFECTIONS*

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ENID

The subject of infections of the nose has been so extensively investigated, agitated, exploited, and I might say exaggerated, in the past few years that it would be unprofitable in this paper to present, even a small part of the enormous amount of statistics collected and compiled by various investigators. While some of the work is of great importance, much of it is confusing and misleading. Of all the foci of infections of the nose and throat I consider those of the nasal accessory sinuses the most potent for harm, and particularly is this true in young children. It is variously estimated that from 80 to 95 per cent of all trouble in the upper respiratory tract of children is preceded by a nasopharyngitis, or an infection in the accessory sinuses. These sinuses are very likely to be the seat of your infection, first, because of their situation at the entrance of the respiratory tract, and second, because their peculiar mechanical and anatomical construction is such that they readily collect, retain and foster the growth of pathogenic germs.

When our foci is in the ethmoid or sphenoid sinuses we are confronted with a difficult problem. When the infection is in the tonsils, or a tooth, by co-operation and conscientious work we can remove the offending members and throw it away. With the paranasal sinus infected the best we can do is to ventilate, drain, curette, etc., and hope that by weeks of after treatment the condition will be eradicated; in the meantime drainage continues, and while efficient drainage removes very much of the menace it does not eradicate it. Putting the figures very small I doubt if 30 per cent of our cases of chronic suppurative ethmoiditis in adults ever get well. During the summer months, or in the hot dry weather, the discharge ceases, or if your patient makes a change to the proper climate his trouble may disappear, but if he remains in the Mississippi Valley, when our winters return with their damp changeable weather, the trouble reappears. The prognosis of paranasal sinus infection is controlled largely by a patient's finances and his ability to seek the proper climate.

In infants and children with a chronic paranasal sinus infection, our prognosis is much more favorable. Dr. Dean says 80 per cent of these infections can be eradicated by simply removing the limphoid masses in the naso-and oropharynx. The question arises how early in life should we try to eradicate the chronic paranasal sinus infection. Most authorities say this should be done in early childhood, but from this statement I am unable to fix any certain age. In my own work it is a rare case where I would do any operative work on the nose or paranasal sinus under 10 years of age, and only in the most unusually severe cases would I sacrifice any turbinate tissue.

The diagnosis and treatment of ethmoid and sphenoid infections have received the attention of many writers and volumes have been printed setting forth the views of different men, but this part of the subject is too big for us to even approach in this paper. But there are some things we should remember, first, it is very difficult to diagnose; second, it is more difficult to treat; third, when your diagnosis has been established it is most difficult to eradicate.

The most experienced operators do not claim to know when they have drained all the diseased cells.

Paranasal sinus serve as foci of infection in children as well as adults, but it is rare to find the paranasal sinus a focus in a child under 3 years of age.

Ethmoid cells are always present at birth, and the development varies very much. At the age of 5 years a child may have a very large sphenoidal sinus or he may not have any. In infants or young children, when paranasal sinus disease is suspected, it is well to determine what sinuses are present by use of the X-ray and of those present those of any clinical importance. Just a word here about the X-ray. I would not depreciate its value but it is often misleading and may prejudice the surgeon in arriving at a correct diagnosis. It frequently tends toward a careless physical examination and a neglect of accurate history taking. The perfection and almost universal

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use of the X-ray has placed in the hands of technicians who are totally untrained in medical science, the means of demonstrating to the patients, satisfaction, and oftimes to the physician and surgeon as well, conditions that do not exist, or that have little or no influence upon the disease from which the patient is suffering. The interpretation of an X-ray plate can only be made correctly by an expert who understands the physiology, anatomy, and pathotogical changes that are common and may be found in the parts to be rayed. After hundreds of comparisons with the actual findings in the operating room one might venture to interpret a radiograph with some assurance, but it is wise to be guarded for the X-ray is often a treacherous ally. A thorough clinical examination, a painstaking history of the case, carefully reviewed by the physician and surgeon, will often reverse a diagnosis made upon the X-ray findings.

The hawking and spitting of a postnasal discharge so common in adults, sneezing, nasal discharge, nasal stopage, recurrent colds, headaches are all symptoms of paranasal sinus disease. In children with diseased tonsils and adenoids paranasal sinus disease is very common in our winter months, and disappears during the summer months.

The prognosis of paranasal sinus disease in children and infants is very much better than adults. Many adults can trace their incurable paranasal sinus disease to early childhood. In children, where we remove tonsils and adenoids, for a systemic disease, we always ask that the child be returned, if it shows any indications of a persistence of focal infection. It is in these cases that a most careful examination of the paranasal sinus reveals the presence of a paranasal sinus disease. In short, I think whenever you remove diseased tonsils and adenoids from a child and you do not get the great improvment you naturally expect, then paranasal sinus disease should be expected, unless perchance you should have syphilis or some obstructive lesion of the nose.

THE TREATMENT OF SINUSITIS IN CHILDREN*

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Infection of the sinuses in children received little recognition until recent years. The pioneer work of Onodi and Killian opened the field for further investigation of this most interesting affection, and many valuable contributions have been made by Coffin, Coakley, Dean, Skillern and others. The difficulty encountered in diagnosing and investigating affections of the sinuses in children may account for the delay in the progress of this line of work.

The sinuses are not fully developed at birth, yet they offer an avenue for infection which is frequently overlooked. Because of the early development of the ethmoidal cells and maxillary sinuses, infection may easily occur in these sinuses during infancy. According to Schaeffer, the maxillary sinus is usually present at birth and increases in size about 2 mm. each year until the eighth year. After this period, the sinus gradually increases in size until the fifteenth year, when it reaches adult size.

The ethmoidal cells are divided into two groups, and are always present at birth. Dean found at autopsy a very bad case of chronic suppurative ethmoiditis in a child sixteen months of age. Because of the early development of these cells, the infection can and does occur during the first year.

The frontal sinus is in reality a continuation of the ethmoidal cells, as the sinus does not develop until the ethmoidal cell extends into the frontal bone. This sinus develops slowly, and it is usually the fifth year before it warrants investigation as an individual sinus. The size and number of the frontal sinuses depend upon the extension of the ethmoidal cells. Operations have been reported as early as the fifteenth month in an infant with frontal sinusitis, but such cases are unusual as the frontal sinus is rarely involved under the age of eight.

Etiology:

In a large percentage of adults suffering from sinusitis a definite history of nasal infection during childhood can be obtained. Careful investigation by the general physician of the sinuses in children will be the means of arresting infection and preventing serious complications.

Climate plays an important role in the occurrence of sinusitis in children. In cold, moist climates where changes occur frequently, sinusitis is very common; whereas, in dry hot zones the infection in relatively rare and responds with rapidity to treatment.

Infection of the sinuses is frequently secondary to infections of the upper air passages and acute rhinitis followed by a slight nasal obstruction is too often the etiological factor in sinusitis. Sinusitis is frequently associated with the acute infectious diseases of childhood. Diseased adenoids and tonsils infect the sinuses by contiguity of tissue and mechanical obstruction. Deflected septa are common in

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late childhood and should be considered as etiological factors.

I am of the opinion that the so called faulty nose blowing habit is responsible for innumerable cases of sinusitis in children. During an acute cold, in an effort to free the nose of obstruction, one is prone to close off one nostril and use great force in the endeavor to clear the obstructed side. This act increases the pressure in the nasopharynx and nasal passages and too often secretion is forced into the eustachian tube and sinuses. In support of this theory the timely discussion of the physiology of sneezing by Brubaker cannot be omitted. He states that the lower animals seldom have suppurative diseases of the ear or sinuses of the nose as the animal has only one means of clearing the nose and this is accomplished by sneezing.

Symptoms:

Nasal obstruction and nasal discharge are the symptoms usually found in children afflicted with sinusitis. In young children, the discharge may not be noticed in the anterior nares as it frequently passes into the nasopharynx and esophagus. In order to determine the origin of pus in the nose, a very careful examination and investigation should be made. If the pus is found in the region of the sinus orifice and reappears after being wiped away, infection of the sinus is present, as the nasal membrane cannot produce pus so rapidly.

In acute sinusitis the temperature may be quite high, often reaching 105 degrees F. Headache and a sense of fullness is soon noticed. The headache may be very severe or mild. The pain usually depends upon the drainage in the affected sinus. With good drainage pain may not be present; but allow the orifice of the sinus to be closed, and the pain becomes severe.

Pain is seldom present in chronic sinusitis, as there is usually an opening which permits sufficient drainage to prevent pressure symtoms.

Children suffering from sinusitis are usually listless, undernourished, and have poor appetites. In a series of fifty cases I have found the loss of weight to range from five to thirty pounds, with an average loss of seven pounds. The hemoglobin was below normal in eighty per cent of these cases. Following treatment of the sinuses and dietetic corrections there was marked improvement in all cases.

Diagnosis:

A careful examination of the anterior nares, throat, pharynx and nasopharynx should be made in all cases. If pus is found in the nose it should be carefully wiped away and the examination repeated in a few minutes in order to trace the origin of the discharge. In some cases it is advisable to shrink the membranes of the nose with small cotton pledgets saturated with a solution of adrenalin in order to permit a more thorough examination.

Transillumination is a valuable adjunct in some cases where the bones are not too dense, however this method is limited to a group of cases in which the co-operation of the patient is essential.

X-ray examination of the sinuses is very important as it offers the means of establishing the presence of a sinus. Without such an examination it would be impossible to outline the size and location of the sinuses. In some cases the development is more rapid than in others, and in the case of the frontal sinus it is essential to know if the sinus be present. Due to the thickness of the bone, a shadow may be present in some cases when the sinus is negative. In certain cases the film does not show the presence of pus as clear pictures have been obtained where pus was later found by puncturing the maxillary sinus.

In the examination of the maxillary sinus it is frequently necessary to puncture the sinus in order to establish a correct diagnosis. This is easily done by the endonasal route, using a curved trocar. In infants and young children the X-ray plate should be carefully studied in order to ascertain the exact location of the floor of the sinus to the attachment of the inferior turbinate. If the floor of the sinus is above the inferior turbinate the puncture is made through the middle meatus. Dean and Armstrong have perfected a technique for culturing the contents of the maxillary sinus without contamination from the nose or nasal wall.

X-ray examination in conjunction with examination of the nasopharynx establishes the diagnosis in sphenoidal sinus infection. If the sphenopalatine ganglion be involved the pain is often very severe and extends to the parts supplied by the branches of the ganglion.

Prognosis:

The prognosis in acute sinusitis is usually good if the condition is seen early and the proper treatment immediately instituted. When the affection occurs in an infant with a cleft palate, the infection may temporarily clear up to recur within a relatively short period. Unless some grave complication occurs the acute infection responds very well to treatment.

Treatment:

In acute sinusitis a good purge, rest in bed, forced fluids and a restricted diet are all that

is required in the majority of cases. The patient should be placed in a well ventilated room, with an abundance of fresh air. It is essential that the child be so housed that it may have an opportunity to play from time to time as hospitilization without this privilege fails to accomplish the desired results. Dean advises douching the nose with a normal saline solution, but this method cannot be commended in all cases as the innocent sinus and eustachian tube are frequently infected by douches and irrigations.

Diseased tonsils and adenoids should be thoroughly and completely removed in cases of sinusitis of a chronic type. Many cases of chronic sinusitis persist for an indefinite period if the adenoid and tonsil tissue is not thoroughly removed. Dean thinks that fully eighty per cent of the chronic cases are cured by this method.

Chronic infections of the nasal sinuses in children respond rapidly to treatment but many appear as resistant to treatment as in the adult. In these cases it is essential that all foci be removed.

In a recent series of fifty selected cases I have used a twenty-five per cent solution of argyrol followed by mild and gentle suction, with gratifying results. The argyrol is used to shrink the membranes, and is applied by means of small cotton pledgets placed in the meatus of the nose. Argyrol has the advantage of shrinking the membranes without the after reaction so commonly observed following the use of solutions which prove to be irritants. A portable water suction apparatus with five feet of rubber tubing and a glass nasal tip is sufficient to carry out the treatment at home, hospital or office. By the use of some simple suction method one assists nature to remove the pus from the sinuses. It is seldom necessary to use this treatment more than two times a day, however, there is no objection to more frequent use. By the use of some simple water suction apparatus the pressure is easily regulated, and by crying or pronouncing the letter "K" the child closes off the pharynx and the discharge is readily withdrawn from the nose. This method of treatment can be used in infants with success. Two cases of maxillary sinusitis in this series did not respond to this form of treatment, and it was necessary to open the antrum by the nasal route in order to establish better drainage. In eighty per cent of the cases in this series there was no evidence of pus in the nose or sinuses at the end of two weeks. Surgery was not resorted to in any of these cases.

The common method of dropping solutions in the nose is without value as the drop usually lands in the inferior meatus and is expelled from the external orifice or passes into the pharynx in a few minutes.

The faulty nose blowing habit should be corrected as soon as possible in order to promote rapid recovery.

Surgery should only be used as a last resort, as mutilating operations in children are rarely indicated.

Conclusions:

Sinusitis is very common in children.

The ethmoid labyrinth and the maxillary sinus are more frequently involved.

A faulty nose blowing habit following acute colds is a very common source of infection.

The prognosis in acute sinusitis is good provided conservative methods are adopted

In chronic cases it is essential to completely remove diseased adenoids and tonsils.

Nasal suction will promote drainage and hasten recovery in acute and chronic sinusitis.

Surgical interference in the treatment of sinusitis in children is rarely indicated.

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POST OPERATIVE ILIUS*

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Intestinal obstruction following operation is at once, one of the most serious of complications that confronts the surgeon, and there is nothing that taxes his ingenuity and resources, as does this most distressing condition.

The two main causes are, disturbances of the inervation, and the interferences of circulation.

The cause of this disturbance of inervation is said by some to be traumatism to the parts by unskilled handling during operation, or it may be due to a necessary traumatism in breaking up inflamatory adhesions.

But there is one other great cause which I believe is productive of more than seventy

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five per cent of all cases of obstruction, and that is infection.

How often have we talked about early operation in appendicitis with a view of getting every body interested in seeing that the case is brought to the operating table before the appendix in gangrenous or is ruptered. Yet these suppurative cases continue to come. And the least we can expect in these cases is a localized peritonitis.

We operate and remove the appendix, put in a little drainage tube and every thing goes well, until we decide there should be a bowel movement. Some surgeons decide this on the third day, some on the fifth. Some believe that carthartics should be given and some are quite sure they should not be.

In my own practice, in these suppurative cases I wait until the fourth or fifth day, if they do not move of their own accord I give a mild carthartic and this is usually sufficient. If we have obstruction it becomes evident most frequently at this point. However the first case I had to deal with, happened three weeks after a drainage case of appendectomy.

The patient had apparently recovered and had traveled three hundred miles to his home, when he fell into my hands with grave symtoms of ileus. In this case it was a mechanical obstruction, a kinking of the bowel caused by an attachment of the omentum, which was easily relieved.

It may also occur early even within the first thirty six hours following operation. Vomiting of such nature may occur, as to immediately apprise us of this dreaded condition.

Our first task is to decide the kind of obstruction, whether mechanical or paresis due to the spreading of the already existing infection.

The location of the obstruction must also be ascertained if possible as this is most important in locating the incision on the abdomen. Occasionally a small band of adhesion is the cause of obstruction in which case relief could be accomplished by the simplest of operations which would be the breaking up of the adhesion.

As this paper deals more with the type of post-operative obstruction due to the extention of the infection of the peritoneum, we are dealing with a paralyzed bowel. This paralysis is due to a poisoning with the toxines produced in the duodenum. This paresis might be so mild in some cases as to amount to merely an inhibition of the intestinal musculature.

It is this class of cases that respond to the use of pituitrin. I wish to say here that pituitrin ought always to be used with caution. Just recently a case came under my observation which was a young girl ten years of age, who had a case of appendiceal abscess. She developed acute intestinal obstruction. A liberal dose of pituitrin was administered. The violent perastalsis that followed ruptured the bowel at the point of drainage. This in itself gave relief but also demonstrated the power of pituitrin which might have had disastrous results as well as the benefit that was derived in this particular case.

We have two conditions to combat, one is the poisoning from absorption of the bowel content, the other, dehydration of the tissues. The exact nature of the toxin in the bowel is not well understood but its effect of producing symtoms such as vomiting, fall of blood pressure, disturbance of tempature, followed by collapse and death, are well recognized by all who do any considerable amount of surgery.

The paralyzing effect of these toxines on the splanchnic, the plexes of Meissner and Auerbach, are sometimes spastic sometimes atonic. Recently we opened an abdomen which showed a peculiar condition. There was a spastic paralysis of numerous short sections of the ilium in which the bowel was narrowed down to a size of a lead pencil. An enterostomy was done above these contractions which gave relief of the obstruction symptoms, later the condition cleared up without furthr interference.

Gastric lavage in this condition has been practised for many years, and since the advent of the dueodenal tube we can also flush the dueodenum and thereby reduce absorbtion of this toxic material. It is possible through this tube after having emptied the upper intestine, to introduce some stimulating fluids. Introducing this fluid has given immediate relief in some cases that seemed to be of the intractable type of paresis.

With this dueodenal tube in place it seems to me that it would be easily possible to introduce the barium fluid which would find its way to the seat of obstruction and with the aid of X-ray we would be able to determine the location of our trouble. This would be a tremendous advantage in locating the site of trouble previous to opening the abdomen. The most effective means for combatting dehydration of the tissues, are frequent intervenous injections of normal saline solution.

After these palliative measures have been instituted we come to the main object of the paper, which is a plea for early operation in intestinal obstruction. The morality is tremendously high and has been given by various

observers as more than fifty per cent, which I believe is partly due to a lack of promptness of action on the part of the surgeons. We are always expecting the matter to right itself a little later on. I believe that interference should be undertaken within the first twenty four hours after the onset of symptoms and before the patient is moribund, or nearly so. The operation of enterostomy is the one employed by most surgeons and the one I use in my own practice is that of securing the intestine to the margin of the peritoneum. I do this under local anesthesia and have gotten relief in most cases.

Anastomosis seems to be the operation of choice with some surgeons by which I mean a short circuiting of the bowel eliminating the obstructed loop. Harrigan points out the great advantage of iliotranscolostomy in that toxic material which has been retained in the ilium can be quickly transferred into the colon and gotten rid of without further absorbtion.

As this operation has to be done on a patient who is already weakened from operative proceedure, with infection present, I believe that as a life saving measure the simple enterostomy as outlined above will produce the best results in the hands of the general surgeon.

The operation of ileostomy with a rubber tube as practiced by Charles Mayo also has its advantages. But so far as I have been able to ascertain operation for closing the fistula is required as often as in simple enterostomy.

Whatever the operation of choice let us do it early and thereby reduce the mortality, which seems to me is much too high at this time.

THE BILE IN HEALTH AND DISEASE*

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Let us take a trip down the "Biliary Aqueduct" through a region that revels in mystery and wonder; and made famous by the explorations and conquests of Hanot, Laennec, Rosenow, Graham, Sweet, Deaver and numerous other physiologists and pathologists.

Let us pause for a few moments at the great cavern of psychic medicine, the Gall Bladder, whose walls no human eye has ever seen to contract, but whose contents, through the intervention of rubber tubing, and magnesium sulphate has been shown to admiring thousands. Time forbids us to linger long.

We hurry along through the general drainage canal of Lyons, through Meltzer regulated Ampulla of Vater into the great temple of chemistry, the duodenum.

No organ in the body has held its secrets more tenaciously than has the liver; and no study has been of greater value than that pertaining to the physiology and function of the liver. Our idea in regards to the secretion of the bile and its relative importance as a toxic substance, as a result of recent study, has been renovated.

The lymphatic origin of cholecystitis; hepatitis; cholangitis and pancreatitis has been very largely accepted; and the knowledge of their intimate association has been largely the result of study and observation of the clinician, surgeon and physiologist.

Bile Formation:

Bile is secreted as a thin watery fluid by the liver cells and is afterwards mixed with mucin, which is secreted by the epithelium of the bile channels. This gives it, its viscid characteristics.

Its color and chemical composition depend to a certain extent on the blood supply to the liver. The so-called colorless bile is usually found in cases of extensive changes in the liver. This has no relation to the white bile found in hydrops of the gall bladder.

The total 24 hour output has been variously estimated from 16 c.c. to about 1200 c.c. The quantity depends on the amount of blood which flows through the liver.

The production of bile is probably through a hormone stimulation, like the pancreatic secretion. The presence of acid chyme causes continous flow of bile as long as it is needed. The secretion of the bile probably decreases when the interductal pressure is equal to 350 mm. water. It does not cease entirely at this pressure and is probably absorbed into the blood stream at the margin of the liver lobules during the time of pressure.

Specht conducted a series of experiments on the influence upon the secretion of the bile, after the administration of fluids, preparations of internal secretory glands, and various drugs.

The secretion in the dogs was about equal upon the various foods, except meat.

The ingestion of milk, or of physiological salt solution by mouth, intravenously or subcutaneously did not cause a greater flow of bile than followed dry feeding. An increase of bile occurred after feeding meat.

The amount of bile was the same for day and night. The specific gravity was practically

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constant. The solid matter did not vary as a result of any of the experiments. There was no relation between the sodium chlorid intake in the food and the amount in the bile. It was concluded that bile and urine were independent in function.

The administration of "thymoglandal" caused only occasional slight increase in bile.

"Adrenalin" caused a marked increase in bile.

"Extract of anterior pituitary" caused a distinct increase of bile. No other substances showed any effect in bile flow.

Gundermann concluded from his experiments that the secretion of bile is independent of the fluid intake, but that the latter has an effect on the urinary output. That the sodium chlorid content of the bile was very constant and independent of the amount of salt taken in the food.

The combined output of bile and urine varied in different animals, but usually was below the total fluid intake.

In 1856, Claude Bernard observed the stimulating effect of acids upon the duodenal orifice of the sphincter of Oddi.

Heidenhain—1861, Rutherford—1880, observed the action of nitrohydrochloric acid in the duodenum on liver secretion.

Wertheimer—1890, observed the action of acid in the duodenum or jejunum on secretion of bile.

Starling—1892, observed the action of intravenous injection of secretin in its effect on secretion of bile.

Fleig—1904, observed the increased flow of bile after the intravenous injection of blood from an isolated loop of duodenum and jejunum in which 5 per cent hydrochloric acid had been injectd into the lumen.

Prevost and Benet—1888, observed that peptone accelerated the flow of bile.

Meltzer in 1917, applied the law of contrary enervation.

Lyon used magnesium sulphate 25 per cent, as a chemical messenger hormone.

Jacobson and Jedyson as a result of their observation on the Papillæ of Vater from application of 25 per cent magnesium sulphate, 5 per cent peptone solution, 4 per cent hydrochloric acid, 4 per cent sodium hydroxide, believe there is only a local reaction, which is of short duration and effects both the Papillæ of Vater and the surrounding duodenum.

Magnesium sulphate was found to produce a momentary relaxation of the sphincter of Oddi; and a reduction in the intraductal pressure of 50 to 100 mm. water They failed to observe any contraction of the gall bladder or expulsion of its bile contents.

Crohn, Reiss and Radin failed to observe contraction of the gall bladder.

Dunn and Cornell, in a human subject with duodenal fistula, gall bladder and common duct removed were able to get A. B. C. D. bile of Lyons.

Diamond found that it is obvious that the gall bladder never empties itself completely in the manner of any other contractile viscus.

He found that carmin placed in the gall bladder remained for a long time. He further believes that the sphincter of Oddi bears no relation to the gall bladder either anatomically or physiologically.

The capacity of the gall bladder is estimated by "Mayo" to be 1-40 to 1-50 of the liver secretion.

"Mann" thinks it is about ½ hours liver secretion.

Many observers believe its function to be rather of a safety valve in times of increased interductal pressure.

The bile in the gall bladder is found to be much more concentrated than that in the ducts. It is darker in color, of greater specific gravity and is found to contain, an addition of mucin and nucleo-albumin. Its exact function and importance to the organism is at this time very difficult to place.

The importance of bile in digestion is not sufficiently appreciated. In its absence only 1-7 to 1-2 of the normal quantity of fat is taken up.

"Claude Bernard" showed that bile without pancreatic juice does not permit of fat absorption. The fat splitting property of the pancreatic juice is intensified by the presence of bile acid salts. A few patients in whom bile has been diverted from the intestinal tract for a long time, have been reported doing well. This is only another demonstration that the organism finds ways and means to replace lost function.

The relation of the Sphincter of Vater to the physiology and pathology of the bile and associated infections of the gall bladder, liver and pancreas has attracted the attention of physiologists for years.

In 1681, "Glisson" first suggested the idea of a sphincter arrangement of the duodenal end of the common duct.

"Oddi" in 1887 describes the sphincter in dogs. He observed that it was separate from the muscle of the duodenum. He never tried to demonstrate it in man. He also observed

dilatation of the extra-hepatic ducts after cholecystectomy in dogs.

Hendrickson, 1898 and Kelly, 1899 confirmed Oddi's work and demonstrated the sphincter in man.

Archibald, in 1912-13 verified its function in maintaining intraductal pressure. He found that on section of the sphincter, that intraductal pressure fell from 650-70 mm. of water. His experiments led him to believe that if bile was forced into the pancreatic duct at a higher pressure than that obtained in the ducts normally, that pancreatitis would result.

Mann, after a study of the sphincter and the Ampulla of Vater in 170 autopsies found it possible to infect the pancreas from the common bile duct in only 4.5 per cent of patients. He estimates the pressure of biliary secretion at 350 mm. of bile, and that of the gall bladder contraction as rather uncertain, and far less than generally attributed to it, but probably around 300 mm. of bile. The diaphragm and abdominal muscles are very important agents in the maintainance of the bile flow and the biliary pressure.

The greatest intraductal pressure was obtained when the animal vomited, and the pressure was about 1000 mm. of bile.

He found that the injection of bile through the pancreatic duct at 500 mm. of bile produced no pathology, and that pancreatitis was only occasionally produced, where a pressure of a 1000 mm. of bile was applied. Ligation of the goat's common duct, below the pancreatic duct did not produce any symptoms in the animal; and no evidence of pancreatitis was seen at autopsy.

"Judd and Mann" showed a dilatation of the extra hepatic ducts after cholecystectomy At first there was a contraction of the sphincter and later a relaxation or paralysis. Attempts have been made by numerous workers to determine the absolute sphincter pressure.

"Oddi and Archibald" found it to be between 650 to 675 mm. of water.

"Herring and Simpson" found it from 200 to 300 mm. of water. Mann showed it at 150 mm. of water.

While there is considerable variation in results obtained by the various observers, it is thought that the probable truth is about 150 mm. water.

The nervous control of the sphincter was first demonstrated by "Heidenhan 1861" by stimulating the cervical spinal cord. "Doyan 1893" found that stimulation of the peripheral ends of the splanchnic, shows contraction; and of the central ends inhibits function.

Later on "Courtade and Guyon" found that stimulation of the splanchnics caused the gall bladder to relax and stimulation of the vagus caused the gall bladder to contract and the sphincter of Oddi to relax.

Jaundice:

In obstruction to the common bile duct, there occurs a stasis in the bile channels, and as a result a rupture of the intra-cellular bile capillaries. The bile then passes through the lymph channels of the liver into the thoracic duct or blood capillaries.

"McMaster and Rous," have determined that the ducts from ¾ of the liver substance can be obstructed before there is pigment or cholate accumulation; and that tissue icterus did occur when 19-20 of the liver substance was placed in stasis.

In the hemolytic or toxemic icterus, there is an increased blood destruction and consequently the bile becomes much thickened and especially rich in pigments. The ducts cannot be emptied by the usual secretory pressure of the liver. They become plugged with so-called "bile thrombi," and as a result the bile becomes dammed back; ruptures the bile capillaries and is forced into the lymphatic system. Thus, it is seen, that the difference between hematogenous, and obstructive jaundice, is not as great, as was formerly supposed.

Von den Burgh developed a chemical test to differentiate between obstructive, and non-obstructive jaundice. It is often very difficult to do this. With Ehrlich's diazo reagent, minute traces of bilirubin can be detected in the blood stream.

The bilirubin present in the blood serum differs in the two types of jaundice.

In the obstructive type it is free and uncombined, while, in the non-obstructive type it is bound to the albuminous material and liberated when alcohol is added.

Results of Icterus.

In obstruction of the common duct, there is observed a dilatation of all the bile passages, and as much as a "liter" of bile has been found in them.

The gall bladder in a large percentage of cases is found contracted in common duct obstruction from stone and dilated in common duct obstruction from cancer of the head of the pancreas, (Courvoisier's Law.)

McMaster, Brown and Rous found that the bile secreted in the presence of partial common duct obstruction contains considerably less cholates and cholesterol.

The changes in the liver following biliary obstruction is similar to that found in other

glands. For instance, the kidney. They propose the name "hydro-hepatosis" in order to indicate the principles in its development.

In another report on the intero-hepatic circulation of bile pigment, they summarize their findings as follows:

In dogs fed the green bile of the liver tissue of herbivora, the bile secreted later, frequently becomes green, changing from the previous yellow, brown. Where sheep bile containing cholohaematin is fed, the bile comes to contain this pigment. When dogs bile in quantity is given; a well marked increase in the output of bilirubin by the liver follows.

As a result of mechanical pressure and chemical action of the bile, the liver cells soon cease to secrete. Excretion of bile acids and glycogen accumulation decreases, and there is soon evidence of a severe cell injury. Connective tissue formation occurs. The parenchyma is destroyed, and the liver becomes shrunken and atrophic.

In ligation of the common duct, icterus appears in three days, but if the thoracic duct is also ligated, icterus is postponed for weeks.

The entrance of bile into the general circulation is felt by the entire organism. Its toxic action is probably due to cholic acid, which irritates the central end of the vagus with resulting slowing of the heart action, and subsequently paralysis of some of the medullary nuclei. Lately suspicion has been turned on the bile pigments as an underlying factor.

Conclusions—That the production of the bile depends on the liver function.

That most of the so-called liver stimulants are mental rather than hepatic in action.

That infection involves the integrity of the liver, gall bladder, bile ducts and pancreas as a whole, rather than as separate structures.

That obstruction to the bile ducts causes injury to the parenchymal cells of the liver in much the same manner as kidney cells are damaged in urinary obstruction.

That the function of the gall bladder and the purported results of chemical biliary messengers have not been sustained by clinical, physiological or animal experimentation.

That jaundice as a result of mechanical pressure involves a danger to the cells of the entire organism as well as the parenchymal cells of the liver.

That the position of the liver function in its relation to the body is of the most supreme importance.

OSTEOMYELITIS, DIAGNOSIS AND TREATMENT*

J. Hutchings White, M. D.
MUSKOGEE

This condition should be considered under two divisions, i. e. diagnosis and treatment of the acute osteomyelitis, and the diagnosis and treatment of the chronic osteomyelitis.

The signs and symtoms of both forms of this crippling disease are well defined and unmistakable and the line of treatment is given in detail yet for some reason or other the failures in early diagnosis are many. There is no good reason why exploration of bone and medullary cavity should not be undertaken under the same aseptic condition as in cases of acute abdomen. Should one make the mistake of incising the periosteum and boring a hole in the bone, under aseptic conditions, the patient is invalided for only a few days. Yet a few days delay in osteomyelitis may mean the loss of a leg or arm with months of disability or maybe a life. It is truly a disease upon which the entire profession agrees that there is one treatment only—surgery—and the method of doing this surgery is standardized. When presented a patient at or near the adolescent period of life who complains of severe pain in a long bone, more often the tibia, femur or humerus, temperature 103 to 105 with great prostration, one has a sufficient number of symtoms to make a diagnosis. There is nothing that gives the same signs and symtoms as an acute osteomyelitis. This condition is not like an appendicitis, gall stones, gastric ulcer, kidney colic or pelvic troubles in the female.

All of these diseases at times will abate and in the minds of the laity a patient recovers. Not so with an inflammation within unyielding bony walls. Infection of the marrow cavity results in formation of pus, the limits and the extent of damage of which are governed by the early diagnosis and the early surgery. If an early outlet is not procured the marrow is destroyed, the endosteum damaged, the bony shell is necrosed, the periosteum stripped from surface of the bone and the result is the loss of the diaphysis of long bones with possibility of multiple abscesses in other bones, pyemia or loss of life or what might be worse than loss of life, a state of chronic invalidism dependent upon the charities of others for maintaining a useless existence.

The symtoms of acute osteomyelitis are sudden local pains in the shaft of long bones,

* Read before Section on Surgery and Gynecology, Annual Meeting Oklahoma State Medical Association, Oklahoma City, May 13, 14, 15, 1924.

generally near an extremity which is increased on percussion or by pressure. By palpating with a blunt instrument one will find a small place more sensitive than others which is usually the seat or center of trouble. A majority of these cases give a history of trauma.

Swelling is variable. It appears always after inflammatory products have passed through the bone and involved the soft structures. When inflammation is confined withtin marrow cavity no swelling is present.

Joints may be tender and swollen, but seldom does the inflammatory process involve the joint itself. When pus breaks through the epiphsis and invades the joint then it becomes necessary to open and drain the joint.

Fever, temperature 103 to 105, pulse 120-140, with much prostration. The patient looks, acts and is very ill.

It is not like a tubercular joint which begins rather insiduously—no high temperature nor prostration and does not begin in the diaphysis.

Acute articular rheumatism, multiple joint involvement and severity less marked. Other conditions, such as gonorrheal rheumatism, typhoid fever, osseous tuberculosis are actinomycosis are hardly worth considering if one takes the trouble to make a thorough examination of the patient.

The difficulty the surgeon has in this class of cases is the lateness in being referred. If physicians would camp on a case of serious illness and examine and re-examine a patient and not be content to call any pain in or around a joint, rheumatism, we would not see so many crippled children. I am not excusing myself or any one in the profession, who has overlooked a case of osteomyelitis. I have been guilty. Have you? I mean never to have it occur again. Will you say the same?. Better to be safe than sorry. Better to open a few medullary cavities and find no trouble than to overlook one when there is trouble.

In the chronic form of osteomyelitis there is oedema, redness and induration of neighboring muscles, subcutaneous tissue and skin. Numerous discharging sinuses communicating with dead bone. The sinuses are lined with unhealthy granulations and are of various sizes. The older the process the more dense the scar tissue, the limb is greatly increased in size. On passing a probe dead bone is easily detected. Frequent attacks of erysipelas develop in cases of long duration. Following cases of moderate severity localized abscesses may develop without sinuses communicating with the surface of the skin. Such abscesses may persist for years with no necrosis or bony enlargement. The enlargement in chronic cases with necrosis is due to oedema of soft parts and formation of involucrum.

The X-ray is of much value in these chronic cases to determine the extent of involvement of shaft, progress of new bone formation and locating small abscesses. Also demonstrating small sequestra. A recent article by Phemister in Journal American Medical Association on silent abscesses in chronic osteomyelitis is very interesting.

In the acute stage of this disease the earlier the pus is evacuated the less damage and the quicker the recovery. This demands a free incision through the soft structures, opening the periosteum and securing drainage from the medullary cavity. If much pus is encountered on opening the bone the trephine opening should be enlarged so long as definite pus escapes from the marrow. The contents of the marrow cavity should not be curetted nor removed. The saving of any part of the endosteum means a saving of the internal surface of the bone. The epipheal line should not be disturbed if possible to avoid same. This is of more importance in children and particularly at the knee and shoulder and wrist. It is from these points that the growth of bone is greatest. Should there be an entire destruction of the shaft and the limb is splinted with another bone, as in the lower extremity, the early removal of the necrosed bone is advocated while the periosteum is plastic. The time for this operation is variable, say about eight weeks after acute infection has stopped. The periosteum should have produced a thin layer of new bone. At this stage the X-ray will show some decided thickening of the cortex. Microscopic examination of the periosteum will prove very satisfactory in determining new growth of bone. The extent of removal of shaft can be determined by condition of the periosteum, amount of granulation tissue and condition of the marrow. After removal of the dead bone the periosteum is brought together and stitched with catgut making flattened tube. When bones are not splinted, as in case of humerus, the necrosed shaft should not be removed before the involucrum has formed sufficiently to support the soft structures and prevent deformity. The shell formed by the periosteum should not be left too long. In the early stages this shell has power to repair centrally; later it has not, but a granulating discharge surface remains. One is aided by X-ray in determining time for removal of necrosed bone—approximately when the total diameter of involucrum equals one-half the normal shaft. About twelve weeks after acute infection.

The difficulty in securing good results in

chronic cases is due to lack of sufficient blood supply to form healthy tissue. After removal of necrosed bone one may resort to the use of biff which English surgeons claim to have proven very satisfactory. After cleansing cavity fill with this paste and close wound. Other pastes also hypochlorite solutions have been used in bone fistula. In those cases which cannot be closed an amount of bone should be removed to allow skin flap to be turned in from each side and entirely or sufficiently cover the raw surface and obliterate the cavity.

It may be necessary to transplant bone where there is no regeneration of the shaft. Flaps of bone, periosteum and skin may be used to fill defects.

The details of all these procedures would not enhance the purpose of this paper and sight of the chief point I wish to bring to your consideration might be lost. It is, I am sure, superfluous to emphasize to this body the importance of early diagnosis, but I may with impunity admonish you to take the trouble and make the opportunity to impress upon the general practitioner the necessity for early surgery in this class of cases.

REFERENCES

Keen's Surgery,
Albee Orthopedic and Reconstruction Surgery,
Marshall, British Medical Journal June 19, 1919,
Phemister, Journal American Medical Association, Volume 82, No. 17.

Doctor:
See your
County
Secretary
and pay
your 1925
dues
NOW!

RESOLUTION ON INDUSTRIAL INSURANCE*

Resolved, by the Oklahoma State Hospital Association that the operation of the Oklahoma Workmen's Compensation Act, as it is being administered by the present State Inductrial Commission, is unjust and unsatisfactory to the hospitals of the State of Oklahoma. Claims rendered for industrial hospitalization are greatly delayed before being disposed of by the Commission, when disposed of often represent an inadequate compensation for the service, and enforcement of the award, when made, is in many instances neglected by the Commission. The insurance law of the State does not exact of insurance carriers, operating in the State, sufficient guarantees of solvency to protect claimants under the Workmen's Compensation Act. The Industrial Commission is far behind with its work.

Be it further resolved, that the attention of the Governor is respectfully called to Section 7312 Compiled Statutes of Oklahoma, which provides "the Governor may remove any Commissioner for inefficiency, neglect of duty or misconduct in office" and the Governor is requested to consider the exercise of the authority thereby conferred with a view to establishing a more efficient personnel in the membership of the Commission, if the exigencies require.

Be it further resolved, that the Governor be respectfully requested to present to the Tenth Legislature a recommendation for an investigation by that body of the administration of the Commission and of the Insurance Department of the State with a view to such structural changes in the Workmen's Compensation Act and in the Insurance Law, as will place the entire work of the State Industrial Commission under the direction of a Chairman, who shall be designated by the Governor and who shall possess qualifications equal to those required by law for a District Judge; and as will require insurance carriers, operating under the Workmen's Compensation Act, to make a deposit with the State Treasurer of securities proportioned to the amount of risks assumed by them within the State.

Be it further resolved, that a copy of these resolutions be sent to the Governor of the State and to the presiding officer of each branch of the Tenth Legislature.

*Oklahoma State Hospital Association Meeting, Tulsa, Oklahoma, Dec. 9, 1924.

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Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 308 Barnes Building, Muskogee, Oklahoma.

Local news of possible interest to the medical profession notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A., will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

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EDITORIAL

JANUARY—OUR MONTH OF GRACE

Again we call attention of our members to the necessity of prompt payment of dues for 1925 *early in January*—The month is Italicised to stress its importance. Unless dues are received from the County Secretary, in his absence from the individual member directly, before February, all accrued benefits and privileges are null and void. Medical Defense, whether the case originates a day or months before lapse of actual membership, which is December 31st of each year, becomes inoperative and a total loss. We have repeatedly warned that omission of merely a few days in this respect has cost individual members an inexcusably disproportionate sum, when they have been called upon to expend large sums for attorney's fees which otherwise would have been their due from the Association. Regardless of the members plight the rule that if he is not in good standing and remains so at all times, must be enforced, should his dues lapse and he then becomes subject of attack.

Another phase of this matter, and one which should be considered in all fairness, is the unnecessary work entailed upon unpaid, unappreciated county secretaries when they are forced to waste their time in unnecessary efforts to place their members in good standing. It should be the duty of every member to make prompt payment of his dues. Instead of the county secretary having to hunt the member up, harry him about and waste valuable time attending to the members business, the member should devote a few minutes of his own precious time to his own business and make everything as easy as possible, including himself, for all concerned. SEE YOUR SECRETARY TODAY.

LEGISLATIVE ACTIVITIES

Press dispatches announcing convening of the present Legislative Session indicate that many measures of interest to the medical profession of Oklahoma may be up for consideration if the suggestions of Governor Trapp are heeded. His first suggestion that a "Legislative Holiday be declared or executed by a brief session with enactment only of most urgently needed legislation will meet with the approval of every Oklahoman. His suggestion that the White Elephant of unadvised action, that ill considered child of waste, which was created only through hysteria and misinformation, the Darlington Institution for treatment of Narcotics, be abandoned, thereby placing its inmates, present and prospective, as mere adjuncts to some other fitted State institution, meets the approval of every thoughtful, informed physician. This entire farcial state of affairs was brought about by the activities of people who themselves should probably have an inquiry into their mental states, and by unduly heeding the scratchings of lurid journalism, so-called. It should be buried as soon as possible, but not forgotten by our future legislators, who may again be called upon to pass upon similarly ill advised measures. Abolition of the Boley institution for treatment of colored tuberculars should also be carefully gone into. If these inmates may be as well, (and they should have better care) cared for in similar institutions, common

sense indicates that a centralization of effort will be best for the tax payers, and the same good ends accomplished.

The proposition to consolidate at Pryor, two other state institutions maintained for the care of unfortunate children, seems to be based only on the soundest economic and common sense grounds. The greater number of these children brought together as is reasonably practicable and possible at once makes for more economy as well as efficiency in their care. The State already has too many second rate institutions scattered about each demanding a costly overhead in the way of administration and support, much of which could be avoided by business like concentration. This very concentration and centralization of effort will at once improve the state of each unfortunate inmate. Instead of wasting his money in frittering it away on scores of inefficient employees, the money may be applied where it properly belongs, to the relief of the person for whom it was appropriated and voted. The entire program has the JOURNAL'S best wishes for success.

THE STATE BOARD OF MEDICAL EXAMINERS

The Biennial Report of Dr. J. M. Byrum, Secretary, State Board of Medical Examiners makes interesting reading and concludes with recommendations which, for the benefit of the profession and State, should probably be adopted. The report shows the funds as practically exhausted, with a probable deficit of approximately $500.00 at the end of the fiscal year. The report shows that 38 applicants were received by examination of recognized graduates; 85 by reciprocity; 6 by re-registration of Territorial License; 7 by duplication of lost or destroyed license. Ninety-one were endorsed for reciprocity to other states, leaving us an apparent gain of 45, which may or may not be the actual case. The recommendations deduced from the report are as follows:

The Secretary of the Board therefore, desires to recommend that the following subjects be covered in ammendments to be offered in the coming session of the Legislature:

1. That the Board be made to consist of SEVEN members representing the various schools of medical practice instead of NINE as at present.

2. That the regular meetings of the Board be held every FOUR months instead of QUARTERLY as provided in the present law.

3. That the Board of Medical Examiners be given quasijudical functions while sitting in hearings for the purpose of revocation or suspension of license and that appeals therefrom be provided in the same manner as the procedure under which appeals are taken from the Corporation Commission or the Industrial Commission and reviewed by the Supreme Court of the State and that the Medical license stand revoked or suspended pending the final hearing by the Court.

4. That some special procedure be provided for the revocation or cancellation of the license of the physician who is serving a penalty on a felony or of any offence involving moral turpitude and that the court records be made prima facie evidence in such proceedings and that the license of the physician who is a fugitive from justise for such crimes may be revoked or cancelled upon evidence of guilt.

5. That the provisions of licensure by Reciprocity be extended and placed upon an individual basis of credentials of medical education and preparation rather than upon an exchange of compliments between State Boards and that the Board be given powers to recognize the licentiates of the National Board of Examiners when proper application is made and endorsements given by the National Board.

Editorial Notes—Personal and General

DR. J. H. SCOTT, Shawnee, has removed to El Reno.

DR. MARY E. RAY, Bartlesville, has removed to Denver, Colo.

DR. J. WORRALL HENRY, Oklahoma City, has removed and located at Shawnee.

DR. D. D. ROBERTS, Enid, has been elected President of the Enid Kiwanis Club.

DR. D. LONG, Duncan, recently attended a national public health conference at New Orleans.

DR. J. E. COCHRAN, Byars, has removed to Wynnewood, where he has established his practice.

DR. WALTER HARDY, Ardmore, addressed the Lions recently, on the recent advances in the medical sciences.

DR. F. L. WORMINGTON, Miami, had a Ford coupe stolen from in front of the Baptist Hospital in November.

DR. and MRS. L. C. VANCE, Ponca City, announce the arrival of a baby boy, Tex, on December 12, weight 9 1-2 lbs.

DR. C. LOY, Wilburton, has sold his practice there, and accepted an appointment with the U. S. Veterans Bureau at Dallas.

DR. C. A. THOMPSON, Muskogee, and Miss Jean Lancaster of Muskogee, were married December 12, 1924, at Waxahachie, Texas.

DR. G. GARABEDIAN, Tulsa, made an emergency call to Bartlesville, December 13, by airplane, making the trip in 33 minutes.

DR. CLAUDE E. PUTNAM, Tuttle, has accepted an appointment with the Department of the Interior, U. S. Indian Field Service at Tohatchi, New Mexico.

DR. J. E. CRAWFORD, Dewey, has removed to New Orleans, where he has accepted an appointment as resident surgeon at the Eye, Ear, Nose and Throat Hospital.

WAGONER COUNTY MEDICAL SOCIETY elected the following officers for 1925: Dr. T. J. Shinn, Wagoner, President, and Dr. C. E. Hayward, Wagoner, Secretary.

ALFALFA COUNTY MEDICAL SOCIETY officers of 1924 will hold over for the new year. They are Dr. J. W. Lynes, Byron, President, and Dr. H. A. Lile, Cherokee, Secretary.

CUSTER COUNTY MEDICAL SOCIETY met December 5, and elected the following officers for 1925: Dr. J. M. Gordon, Weatherford, President; Dr. J. J. Williams, Weatherford, Secretary-Treasurer.

COMANCHE COUNTY MEDICAL SOCIETY met at Lawton December 9 and selected officers for 1925: Dr. E. Brent Mitchell, President; Dr. L. C. Knee, Vice-President, and Dr. G S. Barber, Secretary, all of Lawton.

TULSA COUNTY MEDICAL SOCIETY elected the following new officers for 1925: Dr. Horace T. Price, Tulsa, President; Dr. C. T. Hendershot, Tulsa, Vice-President; Dr. A. R. Wiley, Tulsa, Secretary; and Dr. C. S. Summers, Tulsa, President-elect.

GARFIELD COUNTY MEDICAL SOCIETY had annual election of officers for 1925 at Enid on December 13, and chose the following: Dr. A. E. Wilkins, Covington, President; Dr. Glenn Francisco, Enid, Vice-President; Dr. Paul Champlin, Enid, Secretary-Treasurer.

PONTOTOC COUNTY MEDICAL SOCIETY met and elected the following officers for 1925: Dr. S. L. Burns, Maxwell, President; Dr. M. M. Webster, Ada, Vice-President; Dr. J. L. Jeffress, Ada, Secretary-Treasurer; Dr. J R Craig, Ada, Censor; Dr. Catherine Brydia, Ada, Delegate, and Dr. M. C. McNew, Ada. Alternate.

CRAIG COUNTY MEDICAL SOCIETY met at Vinita December 9 and elected as 1925 officers the following: Dr. W. M Campbell, Vinita, President; Dr. E. A. Pickens, Grove. 1st. Vice-President; Dr J. L. Pierce, Vinita, 2nd Vice-President; Dr. P. L. Hays, Vinita, Secretary-Treasurer; Dr. F. M. Adams, Vinita. Censor; Dr A. W. Herron, Vinita, Delegate, and Dr. W. R. Marks, Vinita, Alternate.

DR. L. C. NORTHUP, Tulsa was appointed county physician, for Tulsa County, succeeding Dr. V. K. Allen, whose term expired.

OTTAWA COUNTY MEDICAL SOCIETY held a "Better Acquainted Banquet" on December 17 at Dr. George DeTar's home at Miami.

DR. ARTHUR WILL, Oklahoma City, is confined to St. Anthony's Hospital with a broken arm, sustained by a fall on the ice, during the recent cold spell.

DR. MORRIS FISHBEIN, Chicago, who recently made several addresses in Oklahoma on public medical matters, has been appointed editor of the Journal of the AMA.

OKLAHOMA COUNTY recently adopted a full-time county health unit plan, providing for a corps of health officers, at a cost of $8,500, which began to function January 1st.

COAL COUNTY MEDICAL SOCIETY elected new officers for 1925 as follows: Dr. J. J. Hipes, Coalgate, President, and Dr. Frank Bates, Coalgate, re-elected Secretary-Treasurer.

LATIMER COUNTY MEDICAL SOCIETY officers for 1925 are: Dr. R. L. Rich, Red Oak, President; Dr. E. B. Hamilton, Wilburton, Vice-President; Dr. T. L. Henry, Wilburton, Secretary-Treasurer.

PHYSICIANS AND SURGEONS HOSPITAL, Tulsa, filed suit recently against the Katy Railroad for $1,773.85, the amount claimed to be due as hospital bills on two patients, sent to the hospital by the Company, said to have been hurt in a train wreck.

PITTSBURGH COUNTY MEDICAL SOCIETY held a banquet at the Episcopal Parish House, McAlester, December 16, at which the President-elect of the Oklahoma State Medical Association, Dr. P. P. Nesbitt, Muskogee, was the guest of honor.

PAYNE COUNTY MEDICAL SOCIETY will hold its next meeting at Cushing Wednesday, January 7, 1925, at 2:00 p. m.; Dr. Everett S. Lain, President of the State Association, will be on the program, which will include the annual election of officers for 1925.

OTTAWA COUNTY MEDICAL SOCIETY held its annual election of officers on December 3, which resulted as follows: Dr. George A. DeTar, Miami, President; Dr. L. W. Troutt, Afton, Dr. E. A. Aisenstadt, Picher, and Dr. G. O. Webb, Cardin, Vice-Presidents; Dr. G. Pinnell, Miami, Secretary-Treasurer, and Dr. J. C. Jacobs, Miami, Censor.

CHOCTAW COUNTY MEDICAL SOCIETY, on December 3 met at Soper and elected the following new officers for 1925: Dr. K. P. Hampton, Soper, President; and Dr. E. A. Johnson, Hugo, Secretary. In connection with the meeting, a quail supper was served by Drs. Hampton, Wm. Yeargan and Sanders, and interesting papers by Drs. R. L. Gee, Hugo, and Dr. Hampton were read.

PITTSBURGH COUNTY MEDICAL SOCIETY met on December 5 at McAlester and elected the following officers for 1925: Dr. F. L. Watson, McAlester, President; Dr. A. D. Bunn, Savanna, Vice-President; Dr. L. S. Willour, McAlester, Secretary-Treasurer; Dr. J. F. Park, McAlester, and Dr. J. A. Munn, McAlester, Delegates; and Drs. R K. Pemberton, O. W. Rice and J. C. Johnston, all of McAlester, Censors.

OKMULGEE COUNTY MEDICAL SOCIETY held its annual banquet and election of officers at Okmulgee December 6. The following were elected to serve in 1925: Dr. H. D. Boswell, Henryetta, President; Dr. W. W. Stark, Okmulgee, Vice-President; Dr. J. O. Lowe, Okmulgee, Secretary; Dr. W. C. Vernon, Okmulgee, Censor. Papers were presented by Dr. M. B. Glisman, Okmulgee, and Dr. Curt von Wedel, Oklahoma City.

OSAGE COUNTY MEDICAL SOCIETY met at the Municipal Hospital at Pawhuska, December 1, for the annual election of officers, with the following results: Dr. E. N. Lipe, Fairfax, President; Dr. W. H. Aaron, Pawhuska, Vice-President Dr. Leonard C. Williams, Pawhuska, re-elected Secretary-Treasurer, and Dr. O. R. Gregg, Pawhuska, Censor. A banquet was served in connection with the meeting, and an address by Dr. Scheffler, Kansas City, was appreciated by those present.

SOUTHEASTERN OKLAHOMA MEDICAL ASSOCIATION held its annual meeting at Durant December 9, with visitors from Pittsburgh, Marshall, Choctaw, Coal and Johnston counties present. The meeting opened with an address by the President, Dr. J. I. Gaston, Madill. Interesting addresses were made by several doctors, including Dr. R. C. Gardner, Atoka; Dr. L. B. Clinton, Durant; Dr. D. C. Enloe, Sherman; Dr. D. E. Welborn, Kingston; and Dr. Walter Hardy, Ardmore

MUSKOGEE COUNTY MEDICAL SOCIETY met December 8 at the Severs Hotel in annual meeting for the election of officers for 1925, with the following results: Dr. J. T. Nichols, President; Dr. H. A Scott, Vice-President; Dr. A. L. Stocks, re-elected Secretary-Treasurer, and Dr. I. B. Oldham, Censor, 3 years; all of Muskogee. Papers were presented on Spastic Paraplegia, by Dr. R. N. Holcombe; Ataxic Paraplegia, Dr. F. L. Ewing; Loco-motor Ataxia, by Dr. J. N. Turner, and Amyotrophic Lateral Sclerosis, by Dr. H. T. Ballantine.

OKLAHOMA COUNTY MEDICAL ASSOCIATION held its regular meeting on December 13, and the following were elected its new officers for the year 1925: Dr. H. Coulter Todd, Oklahoma City, President; Dr. W. W. Rucks, Oklahoma City, Vice-President; Dr. S. Ernest Strader, Oklahoma City, Secretary-Treasurer; Dr. LeRoy Long, Sr. Oklahoma City, member Board of Censors. The delegates and alternates to the State Association meeting are as follows: Dr. William H. Bailey, Dr. A. B. Chase, Dr. W. A. Lackey, Dr. C. E. Barker, Dr. W L Fowler, Dr A J. Sands, and Dr. R. D. Long, alternates: Dr. R. S. Love, Dr. H. Coulter Todd, Dr. Paul Crawford, Dr. J. H. Maxwell, Dr. Horace Reed, Dr. H. M. Williams, and Dr. D. D. McHenry.

DOCTOR JOHN HENRY NOAH

Dr. J. H. Noah, DeNoya, Oklahoma, died at Vinita, Oklahoma November 24, 1924, from general paralysis, his health having been poor for several years. He is survived by his widow, Mrs. Ruth Noah, Cromwell, Oklahoma. Dr. Noah was a member of the Osage County Medical Society, and was born at San Antonio, Texas, November 5, 1882. He graduated in medicine at the College of physicians and Surgeons, Little Rock, Arkansas in 1911, and served with distinction as an officer in the Medical Corps during the World War.

OBSTETRICS and PEDIATRICS

Edited by Carroll M. Pounders, M. D.
532 Liberty National Building, Oklahoma City

NEWER CLINICAL SIGNS OF EARLY RICKETS —C. Ulysess Moore, M. D., J. A. M. A., Nov. 1924.

The writer confines his discussion to the important skeletal signs. These, as a rule, show themselves in the head first, the thorax second and the extremities last. Craniotabes or cranial rickets most frequently occur during the first four months of life—during the period of most rapid growth of the head. This sign was found present in 60 per cent of the winter born babies on the Pacific Northwest coast. Associated with this is found prominent bosses and flattening of the posterior and postero-lateral portions of the head. As to the chest, the anterior portion may become noticeably softened during the first trimester. The most common deformities seen are (1) the square shaped chest, (2) the triangular chest and (3) the oval or flat chest—given in the order of their frequency. During the second four months this order is reversed. Enlargements of the epiphyses are rare during the first half of the first year. On walking bow-legs and knock-knees develop. Rickets of the extremities is always to be looked for following craniotabes and costomalacia. It is pointed out that there is a marked looseness of the lateral ligaments of the knee joint before either knock-knees or bow-legs have definitely developed. Much stress is put on this lateral mobility of the knee joint as a valuable point for both diagnosis and prognosis. A "knee motility board" is described for holding the thigh in a firm position while this mobility is tested.

ULTRAVIOLET RAY THERAPY IN PERITONEAL AND GLANDULAR TUBERCULOSIS OF CHILDREN—H. J. Gersterberger, M. D. and S. A. Wahl, M. D., J. A. M. A., Nov. 1924.

The authors found tuberculosis of the peritoneum and mesenteric glands especially benefitted by treatment. As these types have always responded to different therapeutic measures more favorably than most other types, it is probable that there is some special advantage or characteristic of the lymphatic system of this part of the body. However, the results from light therapy are found to

be much better than those obtained by rest in bed, laparotomy or soap inunctions. Within two weeks the temperature drops, and the patient feels and seems better. Usually in about six weeks the temperature has reached normal and there is marked improvement in the physical condition. Even in a patient who remained at home under poor hygienic surroundings and was not confined to bed, the improvement was remarkable. The enlarged bronchial glands were distinctly reduced, as shown by the gradual disappearance of the annoying paroxysmal coughing attacks. The peripheral lymph nodes were reduced, but not to such an extent as were the mesenteric and mediastinal glands. Two cases of bone tuberculosis responded well. Three cases of pulmonary tuberculosis of the miliary type were not influenced by the treatment.

NONRACHITIC SOFTENING OF THE RIBS IN INFANTS AND CHILDREN—Alfred E. Hess, M. D., American Journal of Disease of Children. Nov. 1924.

His investigations have led the writer to conclude that softness of the ribs and of the anterior chest wall is not necessarily a sign of rickets, although it may be brought about or intensified by this disorder. His investigations were very thorough. In addition to noting the purely clinical signs, the epiphyses of the wrists were radiographed and the inorganic phosphates of the blood estimated. The therapeutic effects of the ordinary antirachitic treatments were also tried out. Cod liver oil, yolk of egg or a combination of both or irradiation with sunlight or with the carbon arc light were used. Autolyzed yeast was given to determine whether or not the trouble might be due to a lack of the water soluble vitamin. Iron was tried in the form of saccharated carbonate and calcium as calcium lactate. The softening was not influenced by any of these agencies, even when carried out as long as a year. The condition was quite definitely proven to be not associated with rickets in a great many cases. It is associated preeminently with the atrophic in contra-distinction to the well nourished infant. As is well known, rickets is frequently met with in babies who are overweight and robust. This softening is found frequently in the new-born, especially those born prematurely, and may persist for years.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M. D.
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REPORT OF ORTHOPEDIC CLINICS AT THE AMERICAN COLLEGE OF SURGEONS—New York, 1924.

The outstanding feature of this meeting was the thesis of Drs. N. D. Royle and John I. Hunter, of Sydney, Australia, who described in detail their new operation of sympathectomy for spastic paralysis.

Drs. Royle and Hunter are two young men in their early forties. They demonstrated conclusively that they had worked out all of the details with the utmost precision and made no claims or statements which they could not demonstrate by experiments and clinical experience.

The object of their operation is to remove the spasticity of the affected muscles by destroying the connection between the sympathetic ganglion and the motor nerve trunks. This they do by intercepting tthe communicating rami at the point of entrance to the nerve trunk near the vertebral foramen. They lay special emphasis upon the term plastitone, which they claim is demonstrated in a practical way by exciting the patellar reflex rapidly and constantly until there is a maximum of contraction of the quadriceps, which raises the heel off the table and when the irritation is discontinued the heel slowly relaxes again to the table. If the heel quickly falls to the table then there is a lack of plastic tone and the case is not suitable for sympathectomy.

The operation is employed in adults as well as children but their experiments and their cases, of which they reported some seventy odd in number, seem to be limited mostly to children and to the common form of cerebral spastic paralysis. Moving pictures were shown before and after operation of many of these cases and the results appeared very spectacular.

For the lower limbs, an incision is made in the lumbar region, external to the heavy lumbar muscles, and by dissection extra peritoneally, the vertebra are reached and the sympathetic nerve trunk exposed in the region from the twelfth dorsal to the first lumbar vertebra. The little threads of communicating rami are picked up by a probe, which is bent like a hook and literally torn from their attachment. These small nerve branches are somewhat difficult to detect from fibrous tissues but to see Dr. Royle do this operation on the live patient as well as the cadaver, one is lead to feel that it is not by any means an impractical proceedure for anyone capable of doing surgery.

For the arm an incision is made about one inch above the clavicle and working posteriorly to the jugular vein the scalenae muscles are exposed and in this region the cervical nerve trunks come into view. Here again the communicating rami are torn from their attachment from the nerves composing the cervical plexis. The wounds are closed and the patient placed in bed without any special appliances.

Dr. Alfred W. Adson of Rochester, Minn., and Dr. Allen B. Knavel of Chicago, reported about twelve or fourteen cases each which they had done in a similar manner to that described by Dr. Royle and they seemed to look with dissatisfaction upon their results. However, they reported that they had removed the ganglion as well as the rami, and Dr. Hunter, who is the neurologist, explained that this was not the correct proceedure, and also demonstrated that they had not selected their cases in the regard to the amount of plastic tone which is a first essential in selecting a case. Dr. Royle did two operations at the Hospital for Ruptured and Crippled in New York, one a cervical, the other a lumbar and the writer saw these cases the next day with Dr. Royal Whitman, attending surgeon of this hospital and Dr. Whitman who carefully examined the cases previous to operation, thought that there was some improvement in the brief period of twelve hours.

Dr. Royle points out very clearly that even after doing the sympathectomy the habits of the patient cannot be changed for many weeks, and states that it is absolutely necessary to follow the operation with muscle re-education and physiotherapy

treatment. Also he insists that all permanent contractures of tendons be relieved before the operation is performed.

EYE, EAR, NOSE and THROAT

Edited by Jas. C. Braswell, M. D.
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THE CAUSES AND TREATMENT OF OTITIS MEDIA—1. Observations on 205 cases occurring in 613 consecutive hospital admissions. Smith, D. T.: Am. J. Dis. Child., 1924, xxviii, 1.

Of 613 patients admitted to the hospital, 33.4 per cent had otitis media when they came in or developed it while they were in the hospital.

The race and sex of the patient seemed to have no relation to the incidence of the disease.

A definite seasonal variation was noted. In February the incidence was 47.3 per cent and in July only 23 per cent.

The most susceptible period was between the ages of three and 15 months. Of the children in this group more than 50 per cent had otitis media.

Fifty per cent or more of the patients with pnuemonia, dysentery, nasal diphtheria, pertussis and pyelitis developed otitis media. In those with prematurity, nephritis, and the non-infectious diseases the incidence of ear infections was less than 21 per cent.

Haemolytic streptococci were isolated from the aural discharge in 56 per cent of the fifty cases in which cultures were made.

The average duration of the disease in 100 cases was twenty five and one-half days.

In commenting on the marked susceptibility of the babies between 3 and 15 months of age, the author suggests that vitamine deficiency may play a role in lowering the resistance as practically all of the children studied in the series were on artificial feedings and most of them had received little, if any cod liver oil before their admission to the hospital.

Smith also noted that 60 per cent of the thirty patients with rickets had otitis media, and that the age period at which the susceptibility is greatest corresponds rather closely to that of rickets and scurvy.

Twenty cases of chronic otitis were cured by local chemotherapy in an average of seven days each, and sixty cases of acute otitis media were cured in an average of thirteen days each.

Mastoiditis did not occur in any of the eighty-eight consecutive cases treated by local chemotherapy, but in 4 per cent of the controls a mastoid operation was necessary.

THE APPLICATION OF IMMUNOLOGY TO OPHTHALMOLOGY—Woods, A. C.,: Arch. Ophth. 1924, liii, 321.

The author discusses in a general way his ideas concerning the various diseases of the eye which may be explained on the basis of anaphylaxis or allergy. He takes up four structures of the eye, the conjunctiva, cornea, lens and uvea.

Inflammations of the conjunctiva which seem to belong to this category are those occurring in hay fever, those associated with pollen hypersensitivity, those due to food anaphylaxis and those due to phlyctenular disease. Woods quotes various investigators who have done considerable work on each of these subjects and gives his own theory of the anaphylactic relation between tuberculosis and phlyctenular disease.

With regard to the cornea he is inclined to agree with those who claim that interstitial keratitis, of leuetic or other origin is frequently allergic.

A considerable amount of work has been done on the lens by European and American investigators, but many of the reports are inconclusive and the serological explanation of the results is often very complicated.

In Wood's opinion uveal tract diseases as sympathetic ophthalmia and "rheumatic" uveitis may often be explained on the basis of anaphylaxis.

The method of arriving at a diagnosis with the use of pollen, tuberculin, lens protein and uveal pigment are described in detail.

SOME CONCLUSIONS AS TO CATARACT EXTRACTION—Meding, C. B.,: Cincinnati, M. J. 1924, v, 177.

The method used has little relation to the end results because of: (1) the wide range in the skill and fitness of operators, (2) the great variation in the physical, mental and racial characteristics of patients, (3) the relation of the method of operation to the experience of the operator.

Unless the cause of a condition is known, it cannot be known whether relief will be given by any given method of treatment such as prolapse of the iris by iridectomy, intracapsular or extracapsular lens extraction, routine preparation to prevent infection, or routine postoperative management.

The treatment must be adapted to the requirements of the particular case.

The authors choice of operation is an intracapsular extraction in which the ligament is ruptured from within by means of his modified Kalt forceps with two small balls on their tips. These forceps are introduced closed in the same manner as the original forceps. The position of the balls can be determined from the bulge of the iris. With the forceps grasping the globe, definite pressure is made to bring the ligament forward and the forceps are then opened and closed to rub the zonula from about 4 to 8 o'clock. If the lens is not dislocated the forceps are used again. Two advantages of this operation are that it will do no harm if it fails and the iridectomy follows the dislocation.

RETROBULBAR AND INTRA-OCULAR NEURITIS DUE TO HYPERPLASTIC CHANGES IN THE ETHMO-SPHENOID SINUSES—Sutherland, J. M.,: J. Michigan State M. Soc., xxxiii, 279.

Sutherland calls attention to the relation of the posterior ethmoid cells and sphenoid sinus to the optic nerve, the intimate relationship of the blood vessels supplying the sinuses and the orbit, the blood supply of the optic nerve, and the size of the optic foramen and canal. Etiological factors of retrobulbar and intra-ocular neuritis are infection through the blood and lymph streams, direct extension of inflammation or infection and pressure upon the intracanalicular portion of the optic nerve from thickening of the bone due to periosteitis, osteitis, or oedema of the soft tissues.

The author has proved to his own satisfaction

that any chronic irritation of the posterior ethmoid cell or sphenoid sinus, with or without suppuration and bony changes is sufficient to cause involvement of the optic nerve. He advocates for all cases of optic neuritis, and especially unilateral cases, opening and drainage of the ethmo-sphenoidal sinuses even though the rhinoscopic examination may be negative.

BACTERIOLOGY and PATHOLOGY

Edited by Wm. H. Bailey, A.B., M.D.
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THE PLACE OF PATHOLOGY IN MEDICAL SCIENCES—Dr. W. G. MacCallum, Baltimore, Md., Southern Med. Jr., Nov. 1924.

The author calls attention to the fact that the Southern Medical Association has been formed 17 years and only now is forming a Section on Pathology. He says that of course much of the discussion in the other Sections has dealt with Pathology but he rejoices in the fact that now there will be a place in which studies of pathological conditions will constitute the prime interest. He emphasizes the importance of laboratory studies to the practicing clinician and the value of autopsies in assisting him in visualizing the conditions diagnosed. He states that the great clinicians have been primarily good pathological anatomists. He places pathology in a central position between biology, anatomy, physiology, chemistry and physics on the one hand and all the branches of medicine and surgery on the other. He critisizes the extreme reliances placed by some clinicians on X-ray and other laboratory reports. An intimate knowledge of the possibilities and probilities of the morbid anatomical changes going on is absolutely necessary to be able to attain a reasonable clinical diagnosis. This is as true for the surgeon as for the medical man. This can only be attained thru long continued studies of autopsies and the miscroscopic nature of the conditions found. He gives us as his opinion that no one can become a really good clinician in any specialty until he has spent a long apprenticeship in studying the morbid processes that take place in his chosen field and so establish a foundation on which to ground the clinical observations that he makes when examining his patients. W. H. B.

INCIDENCE OF SPIROCHAETA PALLIDA IN CEREBROSPINAL FLUID DURING EARLY STAGE OF SYPHILIS—Alan M. Chesney, M. D. and Jarold E. Kemp, M. D., A. M. A., Journal. Nov. 29, 1924.

It is now universally admitted that the causative agent of syphilis may invade the central nervous system during the early stage of the disease at the time of the general dissemination of the organism.

The spinal fluids of 34 patients with untreated syphilis were inoculated into rabbits. In each case the spinal fluid was normal as regards cell count, globulin, Wassermann reaction and mastic curve. Each patient showed one or more of the clinical signs of secondary syphilis, and in all of them, there was a positive blood Wassermann reaction. In none was there any objective evidence of involvement of the central nervous system. The duration of the infection as far as could be determined by histories, varied from three weeks to six months. The duration of the secondary manifestations varied from one day to ten weeks.

Positive inoculations were obtained with five of the thirty four fluids. In three instances, these were obtained in rabbits inoculated in the first series. The other two were obtained in the sub-inoculations. The incubation period with the first three rabbits was 49, 60 and 64 days, respectively. It is conceivable that a slightly higher percentage of positive results might have been obtained had the original animals been observed for a longer period than ninety days.

The evidence of dissemination produced by four of these strains and the production of keratitis by one of them also supports the view that these organisms were in reality representatives of Spirochaeta pallida.

The occurence of Spirochaeta pallida in the spinal fluid of patients with early syphilis in from 14.7 to 26.6 per cent of the cases, when the spinal fluid is otherwise apparently normal, is rather striking. It indicates that one is not justified in concluding that a normal spinal fluid in such cases is free from virulent spirochetes. M. W.

REINFECTION IN SYPHILIS—James Russell Driver, M. D., Cleveland, A. M. A. Journal, Nov. 29, 1924.

The following conditions are deemed necessary for a diagnosis of reinfection of syphilis.

1. In the first attack, Spirochaeta pallida must have been found from the syphilitic lesion, that is, the chancre, condyloma, mucous patch, lymph node puncture or rash, or from a positive Wassermann on the blood.

2. In the second attack, Spirochaeta pallida must be demonstrated from the new chancre, which appeared at a different site from the first chancre; the blood at the same time giving a negative Wassermann reaction.

It is seen then, therefore that in differential diagnosis, if the dark field is positive and the Wassermann reaction is negative, all possibilities excepting reinfection are at once eliminated.

Study of a group of thirteen cases of reinfection seen among approximately 5,000 syphilitic patients shows the striking fact that these figures agree closely with those of White, who reported twenty-eight instances among 10,500 cases.

With the exception of one case, all the group of reinfections were patients diagnosed while in the primary, or perhaps better still, the early stage of the disease. The average patient received treatment consisting of from six to twenty-four injections of arsphenamin, with a median of twelve injections, and from fifteen to fifty injections of mercuric salicylate, with a median of twenty five injections, to cure him.

The thirteen cases of reinfection reported satisfy quite closely the requirements laid down to constitute a true infection.

The curability of syphilis is believed to be provided (a) an early diagnosis can be made by the dark field, and (b) vigorous treatment can be instituted with arsphenamin and mercury injections.

With modern therapy, syphilitic reinfection is probably more frequent than we suspect, and if more patients with syphilis could be closely followed over a period of years, such would be found to be the case. M. W.

THE INFLUENCE OF THE NATURAL ANTI-SHEEP HEMOLYSINS OF HUMAN SERA UPON THE PRODUCTION OF ANOMALOUS REACTIONS IN THE FIRST TUBE OF KOLMER'S TEST FOR SYPHILIS—Robert A. Kilduffe, A. B., A. M., Los Angeles, California. The Journal of Laboratory and Clinical Medicine, Nov. 1924.

It has been observed that in graduated doses of test for syphilis, 0.05 c. c. of serum may sometimes show greater fixation than 0.1 c. c. The natural assumption is to ascribe this type of reaction to the presence of natural antisheep hemolysins in the serum tested. But such anomalous reactions may occur in the absence of natural hemolysin in the serum tested and are, therefore, occasionally due to the presence of serum constituents whose nature and mode of action are as yet, unknown.

In a definite proportion of anomalously reacting sera the reaction is due to the presence of relatively large amounts of natural antisheep hemolysin.

The anomalous reactions in the first tube of Kolmer's quantitative test may occur after the absorption of the natural antisheep amboceptor, and absorption of hemolysin from hemolysin-containing sera may be without effect upon the anomalous reaction.

In a definite proportion of hemolysin-containing and anomalously-reacting sera while the strength of the reaction in the first tube may be increased in the first tube by the absorption of the natural antisheep hemolysin, the ultimate dilution in which the serum reacts after absorption may be affected and decreased.

In Kolmer's quantitative method these anomalous reactions are of no practical importance and do not necessitate prior absorption of the sera, as the strength of the reaction is not materially affected by the anomalous reactions occurring in the first tube.

Unknown serum constituents, not removable by exposure to sheep cells and capable of causing hemolysis, are a potential, though infrequent, source of error in the production of false negative reactions when only a single dose of 0.1 c. c. of serum in tested in complement-fixation methods for syphilis. E. W.

A STUDY OF THE SPECIFICITY OF THE KOLKER COMPLEMENT-FIXATION TEST FOR SYPHILIS—John A. Kolmer, M. D., D. Sc., and Edward Steinfield, M. D. The Journal of Laboratory and Clinical Medicine. Oct. 1924.

The complement-fixation test for syphilis serves its most useful purpose in the diagnosis of syphilis in clinically latent and teritary stages, as a guide in treatment and as evidence of cure, also in atypical cases and in confirmation of diagnosis.

The usefulness of the test is measured by the degree of sensitiveness as consistent with specificity to render its best service as aid in diagnosis, as a guide in treatment and a criterion of cure.

Falsely negative complement-fixation reactions may occur in cases of extremely latent syphilis because of insufficient amounts of "reagin" in the blood and spinal fluid. The incidence of these may be reduced to as maximum a degree of sensitiveness as is consistent with specificity.

Falsely positive reactions are usually due to error in technic and can be reduced to a minimum by confining the conduct of the complement-fixation test for syphilis to competent serologists who are unwilling to sacrifice accuracy for mere speed in returning reports or for economy of time and materials.

The new complement-fixation test does not yield falsely positive reactions with the sera of rats, guinea pigs and rabbits with acute and chronic trypanosomiasis.

The new complement-fixation test for syphilis does not appear to yield falsely positive reactions with the sera of nonsyphilitic lepers or with the sera of nonsyphilitic individuals with acute and chronic tuberculosis, acute and chronic malaria, in advanced pregnancy, advanced diabetes, advanced nephritis, acute pneumonia, acute scarlet fever or with jaundice due to nonsyphilitic involvement of the liver and its bile ducts. E. W.

TUBERCULOSIS

Edited by L. J. Moorman, M. D.
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A PLEA AGAINST THE INDISCRIMINATE USE OF ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF PULMONARY TUBERCULOSIS —Harry Golembe. The American Review of Tuberculosis. June 1924.

Indiscriminate use of artificial pneumothorax serves only to discredit the treatment with both the medical and the general public. Haphazard use of the treatment is too general, depriving many suitable cases of their best chances for recovery and subjecting many unsuitable ones to needless painful and expensive treatment.

This procedure should be used only by men who are not only thoroughly trained but who are able to keep their patients under control for long periods. It should not be used in private practice unless the patient thoroughly understands what he is undertaking and is in a financial condition to carry it out.

Frequent fluoroscopic examinations are essential in the control of these cases even to well trained men. If pneumothorax is resorted to in an emergency such as hemoptysis it should be continued unless the patient is distinctly unsuitable for it. Its use in unsuitable cases except in such emergencies is strongly condemned. It should be attempted if indicated even though the patient has a history of its use. Treatment should not be stopped because of hemoptysis or pleural effusion occurring during its course. The only cases of pleural effusion in which it is safe to stop the treatment are those in which the pleural space is rapidly obliterated.

COMPLETE LEFT HEMIPLEGIA, WITH RECOVERY, AFTER ATTEMPTED ARTIFICIAL PNEUMOTHORAX—Saling Somon. The American Review of Tuberculosis. June 1924.

Accidents following artificial pneumathorax seem to be reported more fully in foreign than in American literature. It is impossible to determine whether they do not occur so frequently or whether American physicians do not report their cases.

Cordier classified these accidents according to the symptoms occurring into three groups. "(1) Those in which the symptoms develop suddenly, resemble syncope and frequently terminate in rapid death, (2) in which convulsions and epi-

leptiform seizures are the initial symptoms, (3) in which hemiplegia and paralysis occur. These may or may not be preceeded by a convulsive seizure or by syncope, the motor disturbance usually lasts but a short time and the paralysis may occur either on the same or opposite side of the pleura punctured."

Many explanations are offered for the occurrence of these symptoms but the majority of authorities consider that they are due either to a pleural reflex or shock, or to air emboli lodging in the celebral blood vessels.

The author reports one case which appears to come under Cordeirs group 3. The needle was inserted with the usual technique for the twelfth refill but no manometric oscillations being obtained after three minutes, it was withdrawn and reinserted at a near point with no oscillations. The patient suddenly became unconscious in about one half minute and developed a slight convulsion. The needle was withdrawn and restorative measures applied although the patient maintained normal facial color, there was no cessation of breathing and the pulse remained of fair quality. A complete paralysis of the left side developed in three or four minutes with the eyes deviated to the right. The pupils were dilated during the attack and there was no increase of deep reflexes on the paralyzed side. The patient regained consciousness in about twenty minutes and the paralysis disappeared in about an hour. The attack was followed by a violent headache over the right eye and vomiting attacks. The artificial pneumothorax was discontinued and the patient was ambulant and improving at the time of reporting.

The author was unable to decide whether this was a case of an evanescent air embolism or of hysteria.

CONTROLLED DIAPHRAGMATIC BREATHING IN THE TREATMENT OF PULMONARY TUBERCULOSIS—S. Adolphus Knoff. The American Review of Tuberculosis, June 1924.

While there are very few contraindications to this method it is not suitable for terminal cases, cases in which the lower lobes are involved, or in those having pleuritic adhesions to the diaphragm or pleuritic, intestinal or peritoneal involvements which make it painful, or for cases in which it increases the cough. It will often help even third stage cases however, by relieving distressing symptoms.

It is useless only with those patients who are too lazy or too indifferent or who are unwilling to cooperate with the physician sufficiently to use it. It is absolutely necessary that the patient understand the method thoroughly, have complete confidence in his physician and co-operate fully with him. The patient should be carefully taught not only how to carry out the treatment but that it cannot produce hemorrhages or other harmful results, and that while it may not show immediate results it will eventually be of great benefit and is something he can do to further his recovery. He should also be taught to drink plenty of water, and to sleep and rest on the affected side as much as possible. This treatment will be found helpful in many cases unsuitable for artificial pneumothorax.

The patient should be thoroughly relaxed in bed or on a reclining chair in a semi-reclining position with the feet extended and slightly separated while being taught the method. "He is then told to imagine that the respiratory movement begins in the toes of the right foot, the inhalation gradually traveling upward as far as the diaphragm on the right side then crossing over to the left side and gradually descending during exhalation to the left foot. While, of course, this breathing upward from the toes to the abdomen is merely imaginary, it results in a diaphraghatic breathing, and whatever quantity of air is inhaled passes mainly thru the lower portions of the lungs while the upper portions, where the tuberculous lesions are usually located, are put, if not at complete, at least at comparative rest. The patient should also be taught to pause a second or two after both inhalation and expiration, and to practice shallow breathing when not doing diaphragmatic breathing. He should be told to take a deep breath whenever he feels the need for it, but to practice diaphragmatic breathing for as long periods as possible until it becomes automatic.

Respirations may be easily reduced in his way to eight or ten per minute with no discomfort and with great benefit.

BOOK REVIEWS

A LABORATORY GUIDE IN HISTOLOGY, (Second Edition, Revised), by Leslie B. Arey, Ph. D., Professor of Anatomy in the Northwestern University Medical School, Chicago. Second Edition, Revised. 12mo of 96 pages. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $1.25 net.

A very handy guide for reference in studying the subject. The Author has divided this subject under three headings, a, Cytology, b, Histology, and c, Microscopic anatomy of organs. Under Cytology he briefly outlines The resting cell, Amitosis, and Mitosis. Under Cytology he briefly outlines the different Epitheliae, connective tissues, Cartilage, Bone, Blood, and Bone Marrow, and the different types of Muscular tissues. Under the Microscopic Anatomy of Organs he takes them up first according to the different systems, and subheads this into the respective organs in that system. It is thot to be an excellent guide on the subject, very concise, and clear.

A TEXT-BOOK OF PATHOLOGY, (Third Edition), by William G. MacCallum, M. D., Professor of Pathology and Bacteriology. Johns Hopkins Univesity, Third edition, Thoroughly revised. Octavo volume of 1162 pages with 575 original illustrations. Philadelphia and London: W. B. Saunders Company, 1924. Cloth, $10.00 net.

This the third edition of the text book of Pathology, edited by a man of unquestionable authority is welcomed by the profession everywhere. The Author states in the Preface that during the four years since this subject was last revised that much light has come forward on hitherto unknown subjects, for example, Rickets. Also the way has been

thrown open by the discovery of Insulin for a new Comprehension of Diabetes, and metabolism in general. He states that we are much more informed about Epidemic Encephalitis, Typhus, etc. Unfortunately not much additional information is added to tumors, and infections.

This is a masterpiece of medical literature, and should be studied, referred to, and read by every man in the profession, whether he be general practitioner, or specialist.

A CLINICAL TOUR TO FOREIGN COUNTRIES FOR AMERICAN PHYSICIANS

Information pertaining to the Inter-State Post Graduate Assembly clinic tour of American physicians to Canada, British Isles and France, 1925, with extension tours to the leading medical centers of Europe. Under the direction of the Managing-Director's office of the Inter-State Post Graduate Assembly of America, Freeport, Illinois.

ANNOUNCEMENT

The clinics and demonstrations connected with this tour will include all the different branches and specialties of medical science. Every branch of medicine receives the same consideration on the program. This announcement does not in any way represent the complete program of the tour, therefore, if you do not find the branch of medicine in which you are interested, represented in this report, you can rest assured that it will receive it's proper importance on the program.

MAY 17

Tour starts from Chicago by special trains. Physicians living in territory where it will be more convenient to go direct to Toronto will be provided with transportation direct to this city in time for the clinics beginning May 13.

MAY 18, 19—TORONTO

We spend May 18 and 19 as the guest of the teaching staff of the Toronto University, Faculty of Medicine. Special clinics will be arranged covering the different branches of medical science by this Institution.

MAY 20

Trip through the Thousand Islands and the St. Lawrence Rapids.

MAY 21, 22—MONTREAL

We spend May 21 and 22 as the guest of the teaching staff of the McGill University, Faculty of Medicine. The clinics in Montreal are in charge of this Institution. Those who wish to join the tour at Montreal on the evening of May 22, receive a reduction of $110.00 from the price of the tour.

MAY 23

Early A. M. sail for Liverpool, arriving in that city May 31st.

SHIP PROGRAM

An intensive professional trans-Atlantic program for the benefit of the physicians who are taking advantage of the tour will take place on board ship and will be contributed to by some of America's most distinguished physicians and surgeons.

JUNE 1 to 7—LONDON

June 1 to 7, the time is spent in London. The clinic arrangements in this city are under the direction of the Honorary Organizer, Mr. Philip Franklin, Honorary Secretary of the Laryngological section of the Royal Society of Medicine and Medical Director of the American Hospital, London; Sir Humphry Rolleston, Bt.; Sir John Bland Sutton, President of the Royal College of Surgeons; Sir William Arbuthnot Lane, Bt.; Sir St. Clair Thompson, President of the Royal Society of Medicine; Sir William Hale White, Retiring President of the Royal Society of Medicine; Mr. H. I. Waring, Vice-Chancellor of the University of London and Mr. W. Girling Ball.

Special social features of the London program will include the conferring of the honorary membership of the Association upon H. R. H. Duke of York at the opening ceremony, which will be held at Barnes Hall, Royal Society of Medicine and the conferring of Honorary Memberships upon the Prime Minister, the Rt. Hon. Stanley Baldwin; the Minister of Foreign Affairs, Rt. Hon. Austen Chamberlain; the Minister of Health, Rt. Hon. Neville Chamberlain; Sir Auckland Geddes; the American Ambassador; the Lord Mayor of London, Sir Humphry Rolleston, Bt., President of the Royal College of Physicians; Sir John Bland Sutton, President of the Royal College of Surgeons and Sir St. Clair Thompson, President of Royal Society of Medicine.

Receptions and luncheons will be given by the Lord Mayor of London, the Presidents of the Royal Societies of Medicine and Surgery, the English-Speaking Union, the Pilgrim's Society, American Chamber of Commerce and members of the British Government.

Intensive professional programs will be carried on at all the leading hospitals of London and at the headquarters of the Association, which will be at the home of the Royal College of Medicine, 1 Wimpole Street.

JUNE 8, 9, 10—LIVERPOOL, MANCHESTER, LEEDS

At Liverpool, the physicians will be the guests of the staffs of all the large hospitals of that city under the direction of Sir Robert Jones, R. E. Kelly and colleagues. Clinic arrangements are now in formation.

At Manchester, the clinic group will be the guests of the staff of the Royal Infirmary. Sir William Milligan and associates are arranging the clinics.

At Leeds, the physicians will be the guests of the University of Leeds. Clinic arrangements are in charge of Sir Berkeley Moynihan and associates.

JUNE 11, 12—DUBLIN

The American physicians will travel to Dublin, where arrangements are under the general management of Sir William DeCourcy Wheeler, Sir William Taylor, Sir Arthur Ball, Sir Robert Woods and their colleagues. All the Irish members of the Association of Surgeons of Great Britian and Ireland will co-operate in forming the program for the American physicians.

JUNE 13, 14, 15—BELFAST

From Dublin the physicians go to Belfast. Here they are the guests of the teaching staff of Queen's University.

In presenting the clinics and demonstrations the teaching staff of Queen's University will be associated with that of the Royal Victoria Hospital.

JUNE 16, 17—GLASGOW

From Belfast we continue to Glasgow, where the clinics are now being arranged by Mr. Farquhar Macrae, Mr. J. H. Pringle, Dr. Findlay Cowan and Dr. John Patrick and their colleagues. On these dates excursions will be run to Ayr for families of the doctors and their friends.

JUNE 18, 19—EDINBURGH

Here the American physicians will be the guests of the Royal Infirmary of Edinburgh under the direction of Sir Harold Stiles, Sir Norman Walker, Sir Robert Philip and associates on the staff of the Royal Infirmary. A very excellent program is being arranged here.

JUNE 20—NEWCASTLE AND UNIVERSITY OF DURHAM

Clinics will be held by the Honorary Staffs of the Newcastle-upon-Tyne Royle Infirmary and the Princess Mary Maternity Hospital,Pensions Hospital, Children's Hospital and some of the special hospitals of the city. The arrangements here will be in charge of Sir Rutherford Morrison, Mr. George Grey Turner, F. R. C. S., and other members of the staffs of the hospitals and clinics of this city.

Demonstrations will be given at the University of Durham College of Medicine (which is located in Newcastle-upon-Tyne) and probably at Armstrong College.

JUNE 21 to 27—PARIS

June 21 the entire party will leave for Paris, via London.

June 22 to 27, the time will be spent in Paris. The clinic arrangements are under the direction of a large number of the most eminent members of the profession both medical and surgical, including Professors Tuffier, Drs. De Martel, Gossett and Delbert in surgery, Drs. Sebilean de Fourmentel and Lermoye in Oto-Rhino-Laryngologie, Drs. Vidal, Chauffard, Sergent, Levaditi and Martin in medicine and Prof. Morax and Delapersonne in ophthalmologie.

Among the numerous social functions of Paris are the following: A reception given on June 22nd by the Academy of Medicine; a large reception given in honor of the American physicians by the Municipal Council of Paris at the Hotel de Ville (City Hall); an evening reception by the Inter-Allied Assembly and a reception by Prof. Tuffier at his country home, which is located near Versailles.

Honorary Memberships will be conferred upon distinguished Statesmen, Soldiers and citizens of France.

Besides the clinics and social features, there will be wonderful travel features.

Paris will be the end of the regular tour, but there will also be a sailing home a week later allowing the American physicians, their families and friends to stay a longer time in Paris with more extensive sight-seeing and giving the physicians the opportunity to attend the clinics at Strasbourg and Lyon where elaborate clinics are now being prepared for their benefit. This part of the tour will be given at the lowest possible cost in addition to the regular tour.

PRICES:

(c) With first-class, high grade hotels and cabin ocean passages—
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The last classification is offered to doctors and medical students who are desirous of having the chance to avail themselves of the wonderful clinic opportunities of the tour. As this Association is purely an educational Institution and is working for the medical profession as a whole, the Board of Trustees decided at it's annual meeting that this class should be included.

EXTENSION TOURS

The opportunity will be given to the physicians subsequently to the main tour to visit practically all the main clinic centers of Europe, through extension tours, conducted by the Temple Tours of Boston under the direction of this office.

It is necessary in order to hold space for the tour to send to the office of the Managing-Director the sum of $65.00 per person. If for any reasons the applicant for space decided that he cannot take the tour, the money will be refunded immediately, if this demand is made within six weeks of sailing time. The reservations will be assigned and preference given on the ship and in the hotels in the order they are received, accompanied with check for $65.00 per person.

This tour is open to members of the profession who are in good standing in their State or Provincial Societies and their families. No restriction of territory. This invitation is understood to be extended to Canadian physicians as well as those of the United States. The Association will also be able to take care of a limited number of lay friends of the physicians. This is possible on account of their not requiring clinic space.

For further information, write Dr. William B. Peck, Freeport, Illinois.

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Reciprocal relations have been established with Missouri, Colorado, New Jersey, California and Louisiana, on basis of examination only. Arkansas, Georgia, Indiana, Iowa, Kansas, Kentucky, Michigan, Mississippi, Nebraska, Nevada, New Mexico, North Carolina, Ohio, Tennessee, Texas, Vermont, Virginia, Washington, Wisconsin, West Virginia, on basis of a diploma and a license without examination in case the diploma and the license were issued prior to June 12, 1908.

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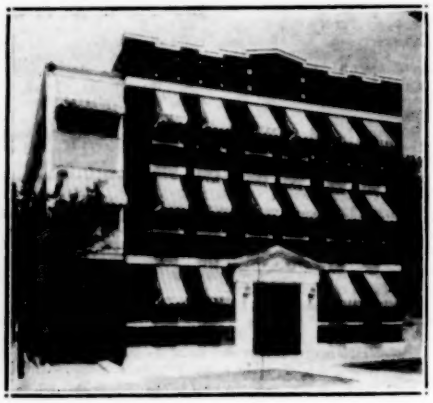

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